

Ag Notes

Harford County Newsletter

UNIVERSITY OF
MARYLAND
EXTENSION

December 2020

University of
Maryland Extension

Harford County
Agricultural Center

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M—F 8:00 a.m.—4:30 p.m.

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INSIDE THIS ISSUE:

Orchardgrass Variety Trials	2
Hay Calculations for Horses	3
Can Small Grains Get Too Big in the Fall?	4
Custom Farming Rate Survey	5
Organic Grain Webinar	5
Field Crops Day	5
Corn Variety Trial Results	5
Potential New Disease Affecting Strawberries	6
FSMA Produce Safety Training	7

Hello, Harford County!

I hope everyone is having an enjoyable Thanksgiving, even if it is a bit different than normal. The Extension office remains closed to the public and most faculty and staff are now teleworking. If you need to reach anyone in the Extension office, please call or email us.

In regards to our winter meetings we do have one change to announce. As you have read in previous issues, we had originally planned on hosting regional “watch parties/viewing sessions” for our Northern Maryland Field Crops Day and Central Maryland Vegetable Growers Day programs where those that couldn’t watch the live webinars could come view the meeting recording. Because of the recent COVID spike and new restrictions from UMD, we have decided to cancel all of these in-person viewing sessions. **We will however, still offer the live programs on December 3 and January 28**, along with several other virtual meetings that you are more than welcome to attend (to see all, visit go.umd.edu/WinterAgMeetings).

If you are not able to attend the live webinars, you may request the meeting recording and materials on a USB flash drive. This will allow you to watch the meeting from any laptop or desktop (you do not need internet). The USB flash drive will also contain files and information from our sponsors, as well as details and forms for pesticide and nutrient management renewal.

To request a USB flash drive of the December 3 Northern MD Field Crops Day Agronomy Meeting, please complete this [online form](#), email me (akness@umd.edu), or call the Extension office.



The Extension office is close to the public until further notice. Faculty and Staff are teleworking.

If you have a stable internet connection and would rather watch the meeting live, register here: go.umd.edu/AgronDec3. If you would like to register for both options, you may do that as well.

If you have any questions about the winter meetings, please contact me. More information about the **Central MD Fruit and Vegetable Meeting** will be in our next issue, but you can register for the webinar now: go.umd.edu/CentralMDVegMeeting.

Also, if you have a Maryland Private Pesticide Applicator license, you probably received an email from MDA last week indicating that your license is expiring and that you must log in and renew. This email was accidentally distributed to **ALL** license holders, regardless of when you expire. If you do not expire in 2020, please disregard that email. If you do expire in December of this year, you will need to go into the system and renew your license. If you do not have the necessary credits to renew (you need 4 CEUs every 3 years), then you may attend any of our winter meetings to get credits (described above and also listed on go.umd.edu/WinterAgMeetings) or complete the self-paced recertification class posted online at go.umd.edu/pestandnutrient.

If you cannot utilize any of the online resources to obtain your credits, please contact me and we will work with you to get you recertified!

I wish you and your family a very Happy Thanksgiving, Merry Christmas, and Happy Holidays!

Until next time,
-Andy



Amanda Grev, Forage & Pasture Specialist
University of Maryland Extension

As new forage varieties continue to be developed and released, the efficacy and performance of these varieties needs to be evaluated. Similarly, as forage and livestock producers are making decisions on which forage species and variety to establish, it is helpful to compare performance data from a number of available varieties. To this end, the University of Maryland Extension Forage Team is in the process of establishing a series of forage variety trials.

In September 2019, an orchardgrass variety trial was established at the Western Maryland Research and Education Center (WMREC) in Keedysville, MD in order to evaluate select orchardgrass varieties based on forage production and quality. Plots were arranged in a randomized complete block design with each individual entry replicated four times. All varieties were planted at a rate of 25 pounds per acre; seed was broadcast and then cultipacked to establish good seed-to-soil contact. The varieties planted included: Alpine, Bounty II, Extend, HLR Blend, Inavale, Olathe, Pennlate, and Rushmore II.

Data collection began when the majority of forage varieties reached the boot stage of development (prior to seed head emergence). The first cutting occurred on May 18, 2020; this was followed by a second cutting on August 3, 2020 and a third and final

cutting on September 28, 2020. At each cutting, forage biomass was collected along a 3 ft. by 20 ft. strip from the center of each plot using a forage harvester set to a cutting height of 4 inches. Collected biomass was weighed, dried in a forced air oven, and weighed again for dry matter and forage yield determination. Sub-samples were also taken from each plot and sent to a commercial laboratory for forage quality analysis.

Seasonal cumulative yield for all orchardgrass varieties ranged from 3.6 to 3.8 tons per acre (Figure 1). Statistical analysis indicates no significant difference in forage yield among any of the varieties for the 2020 growing season. Forage quality analysis is underway; forage quality results will be shared once the analysis is complete.

A big thank you to Jeff Semler and the entire WMREC crew for their assistance in getting this trial started and their help with harvest and data collection. Seed for this study was donated by DLF Pickseed, Seedway, and Kings Agriseeds. These plots will continue to be evaluated for yield, quality, and additional performance parameters in the coming years. We hope to expand the trial to include multiple locations, as well as additional forage species and varieties.

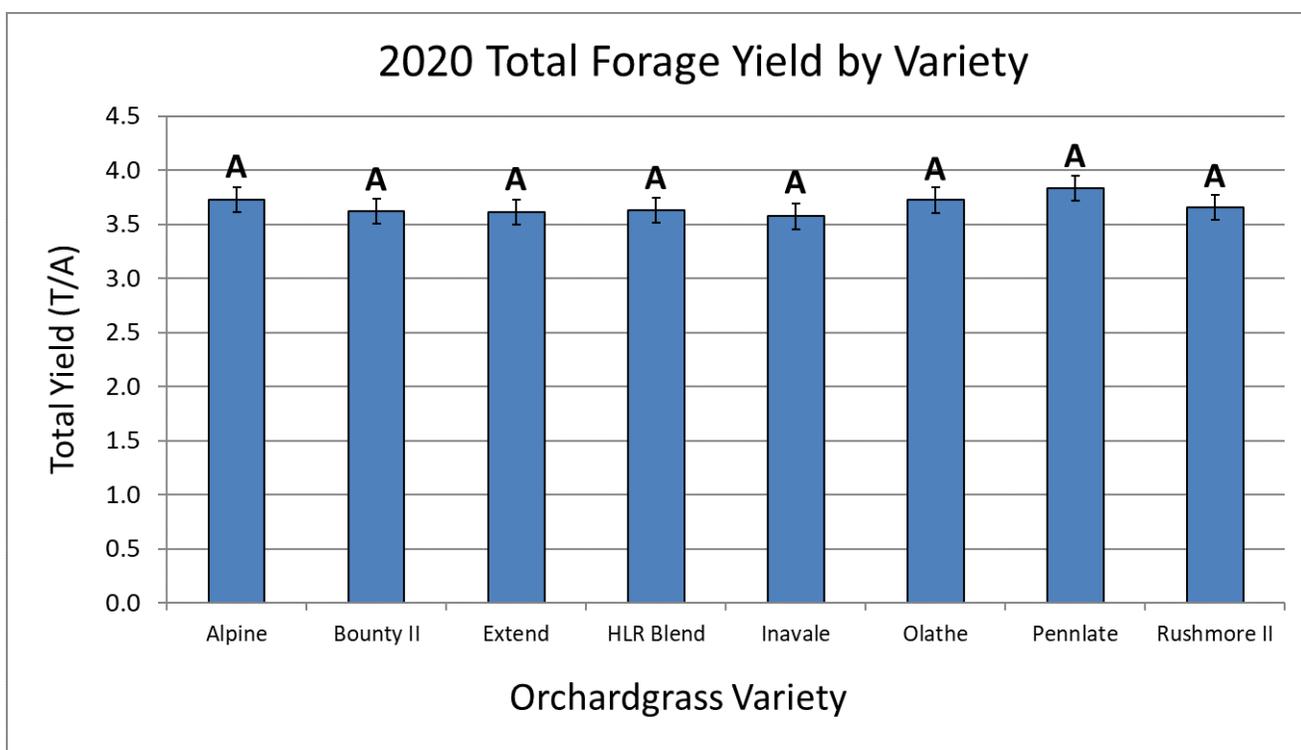


Figure 1. Orchardgrass forage variety trial yield results for 2020, presented as total seasonal yield in tons per acre. Varieties marked by a common letter indicate similar yield production (i.e. no significant difference).

How Much Hay Does Your Horse Need?

Erika Crowl, Agriculture Agent Associate
University of Maryland Extension, Baltimore County

Colder months are upon us and now is the time to stockpile your hay supply for your horses. As the temperatures start to drop below freezing, pasture grasses will begin to reduce their growth and horses will need to rely on other sources of energy to maintain their body temperature. A greater amount of heat is produced through forage utilization because of the higher fiber content. Fiber is utilized through bacterial fermentation within the cecum and large intestine. Significantly more heat is produced in bacterial fiber fermentation than in digestion and absorption of nutrients within the small intestine where grains are broken down.

When calculating how much hay you will need, you should also take into consideration the amount of hay that will be wasted from either your horses or storage. Surprisingly, storage waste can be up to 40% depending on forage type, storage method, environment, and storage length. Hay stored outside tends to be the most common practice, but outdoor storage waste ranges from 5-35%, depending on the amount of rain or snow the bottom and outermost layer will be exposed to moisture. If you can store hay inside, you can reduce hay waste by as much as two-thirds.

Researchers at University of Minnesota published two separate studies on the amount of hay wasted by your horse. The studies focused on hay waste, estimated hay intake, herd bodyweight change, and payback with small square bale feeders and round-bale feeders.

When feeding small square bales, the study found the following amounts of hay waste and hay intake:

Feeder Type	Hay Waste (%)	Hay Intake (%Body Weight)
Basket	3	2.4
Hayrack	5	2.4
Slat	1	2.2
No Feeder	13	2.2

When using a round-bale feeder or no-feeder, they found the following amounts of hay waste hay intake (% of body weight):

Feeder Type	Hay Waste (%)	Hay Intake (% Body Weight)
Restricted Access Feeders	5-11	2.3-2.4
Circular, Free Choice Feeders	13-33	2.0-2.2
No Feeder	57	1.3

To see the full results of "Selecting a small square-bale feeder" visit, <https://extension.umn.edu/horse-nutrition/selecting-small-square-bale-feeder>

To see the full results of "Feeding Horses with a round-bale feeder" visit, <https://extension.umn.edu/horse-nutrition/feeding-horses-round-bale-feeder>

Now that you have taken hay waste into consideration, you are ready to calculate how much hay you will need to buy this winter. Horses should consume 2% of their body weight in hay. For example, a mature 1,000 pound horse should consume 20 pounds of hay a day. Some horses have higher energy requirements and require extra supplementation with grain during these months. It's important to pay close attention to body condition during these periods, and actually "feel" your horse, as their winter coat or blanket can give you a false sense of body score.

For a quick calculation, we will assume your horse weighs 1,000 pounds and are feeding hay from December 1-March 31 (121 days):

$$1 \text{ horse at } 1000 \text{ lbs} \times 2\% \text{ BW} = 20 \text{ lbs hay per day}$$

$$20 \text{ lbs} \times 121 \text{ days} = 2,420 \text{ lbs hay per horse}$$

Don't forget to account for wastage! Here, we will assume 5% storage waste because our bales are stored inside and 5% waste from feeding small square bales in a hayrack feeder.

$$2,420 \text{ lbs} \times 1.05 \text{ (storage waste)} \times 1.05 \text{ (ground waste)} = 2,668 \text{ lbs hay per horse}$$

If you buy your hay by the bale, you will need to find out the approximate weight of each bale. Assuming a 40 pound bale, $2,668/40 = 67$ bales per horse.

With a few simple calculations you will be able to save some money and be prepared for the winter months to come. For more information or advice, contact your [local extension office](#).

Sources:

Kenny L., and A. Frankenfield. "Buying Winter Hay for Horses." *Penn State University*, 2019, extension.psu.edu/buying-winter-hay-for-horses.

Williams, C. "Winter Feeding for Horses" *Rutgers University*, 2011. https://esc.rutgers.edu/fact_sheet/winter-feeding-for-horses/

Andrew Kness, Agriculture Agent
University of Maryland Extension, Harford County

Temperatures have been unseasonably mild in our region in October and November. Warmer fall temperatures can make for an enjoyable harvest but can also force accelerated development in our small grains, resulting in excessive tillering and top growth. While this increase in vegetation may be less of a concern, with a small grain grown strictly as a cover crop, it can be cause for concern for wheat or barley planted for grain.

Wheat and barley need adequate but not excessive growth in the fall in order to maximize overwintering survival and yield in the spring. Plants that have 1-3 tillers and 4-5 leaves should overwinter well and have excellent yield potential going into the spring. In normal years the plants have enough time between the Hessian fly-free date and the winter freeze to achieve 1-3 tillers. However, excessive tillering and top growth can occur if seeding too early, and/or if temperatures in November are unseasonably warm. Rapid and excessive fall growth can be exacerbated if there are high residual nitrogen levels left in the field from the previous crop. This year I have seen some early planted barley that is approximately 10-12 inches tall now, which may cause some issues this spring.

Excessive top growth in the fall creates a stressful environment that can decrease the percentage of plants and tillers that survive the winter, and in extreme cases the growing point of the main stem can emerge (or be very close to emerging) from the soil. In this case, entire plants can die due to the freeze-thaw cycle. The main stem and first tiller of the plant contributes the most to yield, so if they die yield can be severely reduced; although if there are enough

healthy secondary tillers, some yield can be recuperated. Excessive top growth also promotes the development of foliar diseases such as powdery mildew, which if established early, can create a real problem in the spring. Other snowmold diseases can cause serious plant injury to these larger, lush plants. Likewise, aphids are attracted to larger, greener plants; so excessive top growth will attract more aphids, which can vector Barley Yellow Dwarf Virus (BYDV). This would be especially true for seeds planted without an insecticide seed treatment for aphids. Another insect that likes larger plants is the Hessian fly, which will lay eggs in susceptible varieties of plants before the Hessian fly-free date (anywhere from September 30-October 13 depending on where you are in Maryland and the year/weather). These infestations can cause serious lodging issues in the spring. Finally, larger plants transpire more water than smaller plants. This means that if we have a dry winter/spring, the larger plants will have depleted the soil moisture faster than the smaller plants and the potential for drought stress increases (although our springs are usually wet and not dry).

If you have a situation where your wheat or barley for grain is putting on excessive growth, you may want to evaluate the stand after the spring thaw. If the stand is severely damaged, you might consider leaving that field as a cover crop rather than taking it to harvest. Stands with fewer than 15 plants per square foot are likely to have significant yield reductions. If you have cattle you could also try to graze the field in the fall (as long as it's not too wet); or alternatively, mow the field to keep the growth at bay. Obviously this practice has significant costs associated with it, but has been done with success in our region.

CFAP 2 For Livestock

USDA press release

What do beef cattle, buffalo and alpaca all have in common? They are all eligible for USDA's Coronavirus Food Assistance Program 2 (CFAP 2). If you commercially raise animals for food, fur, fiber, or feathers, you may be eligible for assistance. Check to see if you raise eligible livestock through our Eligible Commodities Finder on farmers.gov/cfap.

USDA's Farm Service Agency will accept CFAP 2 applications through **December 11, 2020**.

Learn more at farmers.gov/cfap or call 877-508-8364 to speak directly with a USDA employee ready to offer assistance.

Custom Farming Rate Survey

Shannon Dill, Principal Agriculture Agent
University of Maryland Extension, Talbot County

Attention custom farming operators!

We need your assistance in securing up-to-date information about farm custom work rates, machinery rental rates and hired labor costs in Maryland. This information is being updated and published by the University of Maryland Extension. It is widely used by farmers across the state and the region, so we need the best information available.

Please respond even if you know only a few rates. We want information on actual rates, either what **you paid** to hire work or what **you charged** if you perform custom work. Custom Rates should include all ownership costs of implement & tractor (if needed), operator labor, fuel and lube.

Reported rates will be summarized in the Custom Rate Survey to show a range and averages for the state. **NO** individual names or rates will be published in the Custom Rate Survey.

You can complete this survey online at: <https://go.umd.edu/customrate2021> or you may request a hard copy from Shannon Dill (sdill@umd.edu). Please

return by **December 31, 2020**. We hope these publications will be beneficial to you as a custom farm operator as well as farmers who use custom operators to perform various tasks on their farm.

The results will be available online at www.extension.umd.edu/grainmarketing. We hope this publication will be beneficial to you as a custom farm operator and thank you for your cooperation with this effort.

If you have any questions or comments regarding the survey please contact me at (410) 822-1244 or sdill@umd.edu.

UMD Corn Variety Trials

The results of the UMD corn hybrid test is now available. You can [download a copy here](#), or request a hard copy from the Extension office.



Ask a Farmer—Growing Organic Grain

Dec 1, 2020, 12:00-2:00pm

Free Webinar



Opportunity for conventional grain growers to ask questions before making the investment and commitment to transition land to organic grain production

Panelists:

- Aaron Cooper, Organic grain grower of Cutfresh Organics (transitions 50-70 acres at a time from conventional to organic)
 - Steve Kraszewski, Organic grain grower of Mason's Heritage Farm
 - Shannon Dill, UMD Extension Educator and expert in agriculture business, farm management, marketing and crop budgets
- Register at <https://go.umd.edu/organic> or by calling Sarah Hirsh at 717-451-1264
 - Please email your questions for the panelists ahead of the webinar to Sarah Hirsh at shirsh@umd.edu.



This work is supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under grant #: 2019-51106-30195/project accession #: 1020579.

The University of Maryland, College of Agriculture and Natural Resources programs are open to all and will not discriminate against anyone because of race, age, sex, color, sexual orientation, physical or mental disability, religion, ancestry, or national origin, marital status, genetic information, or political affiliation, or gender identity and expression.

**HAVE YOU REGISTERED
FOR VIRTUAL NORTHERN
MARYLAND FIELD CROPS
DAY YET?**

December 3 | 8am-Noon

There's still time! Register [online](#) or call (410) 887-8090.

Recordings available upon request if you miss the meeting!

A New Fungal Pathogen Affecting Strawberry

Mengjun Hu, University of Maryland
Kathy Demchak, Penn State University

Species taxonomy and pathogenesis

Historically, *Pestalotiopsis* had always been considered an opportunistic, weak plant pathogen, which can be occasionally isolated from strawberry plants along with primary pathogens such as *Colletotrichum* spp., *Phytophthora cactorum*, and *Fusarium* spp. The fungus can also reside with a wide variety of plants as an endophyte. Until the 1990s, the taxonomy of this genus was largely based on morphological characteristics, which was controversial because of the great variability between fungal isolates in colony color, spore size etc. Recently, *Pestalotiopsis* was reclassified into three genera including *Pestalotiopsis*, *Neopestalotiopsis*, and *Pseudo-pestalotiopsis*.

To the best of our knowledge, there are only five species within *Neopestalotiopsis* that have been reported to cause strawberry diseases worldwide. They include *N. iranensis*, *N. clavispora*, *N. mesopotamica*, *N. rosae* and a novel clade *Neopestalotiopsis* sp, according to the new classification. That means the majority of species within this genus or the other two related genera should be of little concern, in terms of infection.

What we currently know about the disease situation

Recently, severe outbreaks of *Neopestalotiopsis* related disease were reported in FL strawberry fields, where root, crown, petiole, fruit, and leaf symptoms were observed (<https://gcrec.ifas.ufl.edu/media/gcrecifasufledu/docs/pdf/berry-newsletter/2019---March.pdf>). Two species including *N. rosae* and the novel *Neopestalotiopsis* sp. noted above were identified as the causal agents. Compared to *N. rosae*, the new *Neopestalotiopsis* sp. showed greater pathogenicity in fruit and leaf *in vivo*. The disease is now considered a major threat by many FL growers. During fall 2020, the same or a similar disease was observed in at least four production fields in NJ, one in PA, and one in MD, which was presumably distributed on strawberry runner tips to one or more plug plant producers. These incidences were reported approximately 3 to 4 weeks after planting. Isolates from one plug producer have been confirmed to be genetically closely related to the isolates that were pathogenic in FL. However, the species has yet to be determined, as characterization and



Figure 1 (top). Symptoms of *Neopestalotiopsis*-infected leaves; Cv: Chandler. **Figure 2 (bottom).** Advanced infection of powdery mildew. The necrotic reaction to powdery mildew can happen in some cultivars, and could be confused with *Neopestalotiopsis* or other foliar issues; Cv: Chandler.

identification of isolates within this genus typically requires multi-loci sequencing from a larger pool of isolates. Further, pathogenicity of these locally obtained isolates has not been confirmed.

Diagnosis of *Neopestalotiopsis*

Leaf symptoms of *Neopestalotiopsis*: Symptoms could look similar to those of other leaf spots such as leaf scorch or *Phomopsis* leaf blight or leaf blotch (Fig. 1). This disease may occur in combination with other diseases such as powdery mildew (Fig. 2), complicating diagnosis or causing symptoms to be more severe. However, disease symptoms seem to be pronounced and a large portion of the foliage can be affected if untreated.

Fruit symptoms of *Neopestalotiopsis*:

7 *Neopestalotiopsis* may appear similar to anthracnose in early stages forming tan to brown fruit lesions. With anthracnose, tan to brown sunken lesions continue to grow in size, but eventually they develop a salmon to orange-colored mass from sporulation in the center of the lesion and seeds may turn black if the disease has progressed sufficiently. With *Neopestalotiopsis*, brown sunken lesions grow in size and eventually exhibit dense black sporulation in the center of the lesion according to the report in FL. This information will be updated next year as we learn more over the spring and summer.

Crown and root system symptoms of *Neopestalotiopsis*: This disease can affect all plant parts, and may invade the crown and root system causing plant collapse. Keep in mind that *Phytophthora*, anthracnose crown rot, or simple cultural mistakes such as planting too deep can cause plant death also. Since *Neopestalotiopsis* or *Pestalotiopsis* was considered a secondary pathogen (most species still are), it could be possible that this new disease has been around for a while and sometimes misidentified with other common foliar/crown diseases such as leaf blight/scorch/spot and powdery mildew as noted above. The significance and distribution of the disease in regions outside FL largely remains to be investigated.

Cultural and chemical control According to Dr. Natalia Peres at the Univ. of Florida, high temperatures (77 to 86°F) are favorable for the disease development, and the progression is unlikely to advance once temperatures fall below 55°F, especially when leaves are dry. Fungal spores are produced on the surface of infected tissues, which are dispersed by water or rain splash. Limiting operations when plants are wet is thus important to minimize its spread, if the disease is present. Removal of infected leaves or tissues may also be of benefit, though

it is important to work in areas with fewer symptoms first to avoiding spreading the disease on hands or tools. Be sure to remove and bury or burn any infected tissue so it doesn't just remain behind in the field where it will likely continue to produce spores.

A variety of fungicide products has been evaluated for their efficacy against the new *Neopestalotiopsis* sp. Both Switch® and Thiram® have consistently shown moderate to good efficacy across two field trials conducted in FL. Thiram SC has a 2(ee) label for use on this disease in Maryland. Some other products showed numerical reductions in incidence that were not statistically significant, and others showed efficacy but are not currently allowed for use on strawberries. Keep in mind that fungicide sensitivity can vary significantly between species within the same genus. More studies are needed to identify species causing the similar disease in the Mid-Atlantic region and understand their sensitivities to fungicides.

If you have reason to suspect that this disease is present in your fields, a Thiram SC spray may be helpful, but keep in mind that other diseases such as anthracnose or powdery mildew may be a cause of symptoms as well, and Thiram will have little or no effect on these diseases. In these cases, other materials such as Captan®, or a category 3 product, may be a better choice. You may want to save Switch for bloom or fruit ripening period, as it has good efficacy for both *Botrytis* and anthracnose fruit rots. It will be important to get any sprays on before row covers are applied, and afterwards, take a look under the covers to make sure additional sprays aren't needed later.

Produce Safety Rule Training

This year, due to restrictions related to COVID, Produce Safety Rule (PSR) Grower Training Workshops will be done online over the course of two half-day sessions. The next training will be offered **January 19, 2021, 1:00 PM – 4:30 PM & January 20, 2021, 10:00 AM – 4:00 PM**. Growers may [register now](#), but registration closes **January 4, 2021** so that materials can be mailed prior to the Workshop. If you still need to attend a PSR training this is a great opportunity to do so from the comfort of your home.



Andrew Kness
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[Extension.umd.edu/Harford-county](https://extension.umd.edu/Harford-county)



Back-issues of this publication can be found at: <https://extension.umd.edu/news/newsletters/657>

Great resources are just a click away!

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Dates to remember

- 01 Dec-19 Jan.** UMD Extension Virtual Winter Ag Meetings. Free. Multiple dates & times. Visit go.umd.edu/WinterAgMeetings.
- 01 Dec.** Growing Organic Grain Webinar. 12-2pm. Free. Register online: go.umd.edu/organic.
- 03 Dec.** [Virtual Northern MD Field Crops Day](#). 8-12:15pm. Free. Register [online](#) or call the Extension office.
- 08 & 15 Dec.** [Integrated Weed Management Workshops](#). 8-10am or 6-8 pm. Free. Register at go.umd.edu/IWM or call Ben Beale (301) 457-4481.
- 28 Jan.** [Virtual Central MD Fruit & Vegetable Growers Day](#). 8-12:15pm. Free. Register at: go.umd.edu/CentralMDVegMeeting or call the Extension office.

Check out these additional online resources from

 Maryland Grain	 Ag Law Initiative
 Agronomy News Blog	 Women in Ag
 Nutrient Management	 Plant Diagnostic Lab
 Extension Website	

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